

WHAT IS CLAIMED IS:

1. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

a cylindrical cleaning member composed of an elastic material;

moving means for moving the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

drive control means for controlling the moving means;

a cap member for protecting the ink-discharge surfaces of the print head; and

cap opening/closing means for opening and closing the cap member,

wherein, when the cap member is opened by the cap opening/closing means, by driving the moving means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked.

2. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

a cylindrical cleaning member composed of an elastic material;

moving means for moving the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

drive control means for controlling the moving means;

discharge control means for controlling a discharge operation of ink from the ink-discharge openings formed in the discharge surfaces;

a cap member for protecting the ink-discharge surfaces of the print head; and

cap opening/closing means for opening and closing the cap member,

wherein, when the cap member is opened by the cap opening/closing means, by driving the moving means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning

member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked, and after the moving of the cleaning member on the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge openings with control of the discharge control means.

3. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

- a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

- a cylindrical cleaning member composed of an elastic material;

- moving means for moving the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

- drive control means for controlling the moving means;

- discharge control means for controlling a discharge operation of ink from the ink-discharge openings formed in the discharge surfaces;

- a cap member for protecting the ink-discharge surfaces of the print head; and

- cap opening/closing means for opening and closing the cap member,

wherein, when the cap member is opened by the cap opening/closing means, by performing a discharge operation of ink from the ink-discharge openings with control of the discharge control means, ink is preliminarily discharged from the ink-discharge openings.

4. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

a cylindrical cleaning member composed of an elastic material;

a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head;

cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in accordance with the opening operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; and

drive control means for controlling the cap opening/closing means,

wherein, when the cap member is opened by the cap

opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked.

5. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

a cylindrical cleaning member composed of an elastic material;

a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head;

cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in accordance with the opening operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

drive control means for controlling the cap opening/closing means; and

discharge control means for controlling a discharge operation of ink from the ink-discharge openings formed in the discharge surfaces,

wherein, when the cap member is opened by the cap opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked, and after the moving of the cleaning member on the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge openings with control of the discharge control means.

6. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

a cylindrical cleaning member composed of an elastic material;

a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head;

cap opening/closing means for opening and closing the

cap member and for moving the cleaning member and the print head relative to each other in accordance with the opening operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

drive control means for controlling the cap opening/closing means; and

discharge control means for controlling a discharge operation of ink from the ink-discharge openings formed in the discharge surfaces,

wherein, when the cap member is opened by the cap opening/closing means, by performing a discharge operation of ink from the ink-discharge openings with control of the discharge control means, ink is preliminarily discharged from the ink-discharge openings.

7. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having a plurality of rows of the ink-discharge openings formed therein for a corresponding plurality of colors;

a cylindrical cleaning member composed of an elastic material;

a cap member for housing the cleaning member therein

and for protecting the ink-discharge surfaces of the print head;

cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in the direction orthogonal to the plurality of rows of the ink-discharge openings for the respective colors in accordance with the opening operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

drive control means for controlling the cap opening/closing means; and

discharge control means for controlling a discharge operation of ink from the ink-discharge openings formed in the discharge surfaces,

wherein, when the cap member is opened by the cap opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked, and in the order of the rows, over which the cleaning member passes with control of the discharge control means, of the ink-discharge openings for the corresponding colors formed in



the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge openings with control of the discharge control means.

8. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

a cylindrical cleaning member composed of an elastic material;

moving means for moving the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

drive control means for controlling the moving means;

a cap member for protecting the ink-discharge surfaces of the print head; and

cap opening/closing means for opening and closing the cap member,

wherein, when the cap member is closed by the cap opening/closing means, by driving the moving means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning

member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked.

9. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

a cylindrical cleaning member composed of an elastic material;

moving means for moving the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

drive control means for controlling the moving means;

discharge control means for controlling a discharge operation of ink from the ink-discharge openings formed in the discharge surfaces;

a cap member for protecting the ink-discharge surfaces of the print head; and

cap opening/closing means for opening and closing the cap member;

wherein, when the cap member is closed by the cap opening/closing means, by driving the moving means with control of the drive control means so as to move the

cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked, and after the moving of the cleaning member on the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge openings with control of the discharge control means.

10. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

a cylindrical cleaning member composed of an elastic material;

moving means for moving the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

drive control means for controlling the moving means;

discharge control means for controlling a discharge operation of ink from the ink-discharge openings formed in the discharge surfaces;

a cap member for protecting the ink-discharge surfaces of the print head; and

cap opening/closing means for opening and closing the cap member,

wherein, when the cap member is closed by the cap opening/closing means, by performing a discharge operation of ink from the ink-discharge openings with control of the discharge control means, ink is preliminarily discharged from the ink-discharge openings.

11. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

a cylindrical cleaning member composed of an elastic material;

a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head;

cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in accordance with the closing operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; and

drive control means for controlling the cap

opening/closing means,

wherein, when the cap member is closed by the cap opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked.

12. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

a cylindrical cleaning member composed of an elastic material;

a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head;

cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in accordance with the closing operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

drive control means for controlling the cap opening/closing means; and

discharge control means for controlling a discharge operation of ink from the ink-discharge openings formed in the discharge surfaces,

wherein, when the cap member is closed by the cap opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked, and after the moving of the cleaning member on the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge openings with control of the discharge control means.

13. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having the ink-discharge openings formed therein;

a cylindrical cleaning member composed of an elastic material;

a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print

head;

cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in accordance with the closing operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

drive control means for controlling the cap opening/closing means; and

discharge control means for controlling a discharge operation of ink from the ink-discharge openings formed in the discharge surfaces,

wherein, when the cap member is closed by the cap opening/closing means, by performing a discharge operation of ink from the ink-discharge openings with control of the discharge control means, ink is preliminarily discharged from the ink-discharge openings.

14. An image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, comprising:

a print head including ink-discharge surfaces having a plurality of rows of the ink-discharge openings formed therein for a corresponding plurality of colors;

a cylindrical cleaning member composed of an elastic

material;

a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head;

cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in the direction orthogonal to the plurality of rows of the ink-discharge openings for the respective colors in accordance with the closing operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head;

drive control means for controlling the cap opening/closing means; and

discharge control means for controlling a discharge operation of ink from the ink-discharge openings formed in the discharge surfaces,

wherein, when the cap member is closed by the cap opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked, and in the order of the rows, over which the cleaning member passes



with control of the discharge control means, of the ink-discharge openings for the corresponding colors formed in the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge openings with control of the discharge control means.

15. The image forming apparatus according to any one of Claims 1 to 14, wherein the cap member is opened and closed when the closing state of the cap member has continued for a predetermined time interval.

16. The image forming apparatus according to any one of Claims 1 to 14, wherein the cap member is closed after an operation of forming an image on a recording sheet.

17. The image forming apparatus according to any one of Claims 1 to 14, wherein the cap member is closed unless an image forming operation is performed for a predetermined time interval after an operation of forming an image on a recording sheet.

18. The image forming apparatus according to any one of Claims 2, 3, 5 to 7, 9, 10, and 12 to 14, wherein an ink receiver for receiving ink preliminarily discharged from the ink-discharge openings is provided in the cap member.

19. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; moving means for moving the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive control means for controlling the moving means; a cap member for protecting the ink-discharge surfaces of the print head; and cap opening/closing means for opening and closing the cap member,

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is opened by the cap opening/closing means, by driving the moving means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked.

20. A control method of an image forming apparatus for

forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; moving means for moving the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive control means for controlling the moving means; discharge control means for controlling an discharge operation of ink from the ink-discharge openings formed in the discharge surfaces; a cap member for protecting the ink-discharge surfaces of the print head; and cap opening/closing means for opening and closing the cap member,

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is opened by the cap opening/closing means, by driving the moving means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked, and after the moving of the cleaning member on the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge

openings with control of the discharge control means.

21. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; moving means for moving the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive control means for controlling the moving means; discharge control means for controlling an discharge operation of ink from the ink-discharge openings formed in the discharge surfaces; a cap member for protecting the ink-discharge surfaces of the print head; and cap opening/closing means for opening and closing the cap member,

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is opened by the cap opening/closing means, by performing a discharge operation of ink from the ink-discharge openings with control of the discharge control means, ink is preliminarily discharged from the ink-discharge openings.

22. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head; cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in accordance with the opening operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; and drive control means for controlling the cap opening/closing means;

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is opened by the cap opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked.

23. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head; cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in accordance with the opening operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive control means for controlling the cap opening/closing means; and discharge control means for controlling an discharge operation of ink from the ink-discharge openings formed in the discharge surfaces;

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is opened by the cap opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-

discharge surfaces, ink in the ink-discharge openings is sucked, and after the moving of the cleaning member on the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge openings with control of the discharge control means.

24. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head; cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in accordance with the opening operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive control means for controlling the cap opening/closing means; and discharge control means for controlling an discharge operation of ink from the ink-discharge openings formed in the discharge surfaces,

the control method comprising the step of controlling

the image forming apparatus such that, when the cap member is opened by the cap opening/closing means, by performing a discharge operation of ink from the ink-discharge openings with control of the discharge control means, ink is preliminarily discharged from the ink-discharge openings.

25. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having a plurality of rows of the ink-discharge openings formed therein for a corresponding plurality of colors; a cylindrical cleaning member composed of an elastic material; a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head; cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in the direction orthogonal to the plurality of rows of the ink-discharge openings for the respective colors in accordance with the opening operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive control means for controlling the cap opening/closing means; and discharge control means for controlling an discharge operation of ink



from the ink-discharge openings formed in the discharge surfaces,

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is opened by the cap opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked, and in the order of the rows, over which the cleaning member passes with control of the discharge control means, of the ink-discharge openings for the corresponding colors formed in the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge openings with control of the discharge control means.

26. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; moving means for moving the cleaning member and the print head relative to each other while keeping the

circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive control means for controlling the moving means; a cap member for protecting the ink-discharge surfaces of the print head; and cap opening/closing means for opening and closing the cap member,

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is closed by the cap opening/closing means, by driving the moving means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked.

27. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; moving means for moving the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive

control means for controlling the moving means; discharge control means for controlling an discharge operation of ink from the ink-discharge openings formed in the discharge surfaces; a cap member for protecting the ink-discharge surfaces of the print head; and cap opening/closing means for opening and closing the cap member,

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is closed by the cap opening/closing means, by driving the moving means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked, and after the moving of the cleaning member on the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge openings with control of the discharge control means.

28. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; moving means for moving the cleaning member and the print

head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive control means for controlling the moving means; discharge control means for controlling an discharge operation of ink from the ink-discharge openings formed in the discharge surfaces; a cap member for protecting the ink-discharge surfaces of the print head; and cap opening/closing means for opening and closing the cap member,

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is closed by the cap opening/closing means, by performing a discharge operation of ink from the ink-discharge openings with control of the discharge control means, ink is preliminarily discharged from the ink-discharge openings.

29. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head; cap opening/closing means for opening and closing the cap member

and for moving the cleaning member and the print head relative to each other in accordance with the closing operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; and drive control means for controlling the cap opening/closing means;

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is closed by the cap opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked.

30. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head; cap opening/closing means for opening and closing the cap member

and for moving the cleaning member and the print head relative to each other in accordance with the closing operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive control means for controlling the cap opening/closing means; and discharge control means for controlling an discharge operation of ink from the ink-discharge openings formed in the discharge surfaces;

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is closed by the cap opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces, ink in the ink-discharge openings is sucked, and after the moving of the cleaning member on the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge openings with control of the discharge control means.

31. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus

comprising: a print head including ink-discharge surfaces having the ink-discharge openings formed therein; a cylindrical cleaning member composed of an elastic material; a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head; cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in accordance with the closing operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive control means for controlling the cap opening/closing means; and discharge control means for controlling an discharge operation of ink from the ink-discharge openings formed in the discharge surfaces,

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is closed by the cap opening/closing means, by performing a discharge operation of ink from the ink-discharge openings with control of the discharge control means, ink is preliminarily discharged from the ink-discharge openings.

32. A control method of an image forming apparatus for forming an image on a recording medium by discharging ink from ink-discharge openings, the image forming apparatus

comprising: a print head including ink-discharge surfaces having a plurality of rows of the ink-discharge openings formed therein for a corresponding plurality of colors; a cylindrical cleaning member composed of an elastic material; a cap member for housing the cleaning member therein and for protecting the ink-discharge surfaces of the print head; cap opening/closing means for opening and closing the cap member and for moving the cleaning member and the print head relative to each other in the direction orthogonal to the plurality of rows of the ink-discharge openings for the respective colors in accordance with the closing operation of the cap member while keeping the circumferential surface of the cleaning member in contact with the ink-discharge surfaces of the print head; drive control means for controlling the cap opening/closing means; and discharge control means for controlling an discharge operation of ink from the ink-discharge openings formed in the discharge surfaces,

the control method comprising the step of controlling the image forming apparatus such that, when the cap member is closed by the cap opening/closing means, by driving the cap opening/closing means with control of the drive control means so as to move the cleaning member and the print head relative to each other while keeping the circumferential surface of the cleaning member in contact with the ink-



discharge surfaces, ink in the ink-discharge openings is sucked, and in the order of the rows, over which the cleaning member passes with control of the discharge control means, of the ink-discharge openings for the corresponding colors formed in the ink-discharge surfaces, ink is preliminarily discharged from the ink-discharge openings with control of the discharge control means.

33. The control method of an image forming apparatus according to any one of Claims 19 to 32, wherein the cap member is opened and closed when the closing state of the cap member has continued for a predetermined time interval.

34. The control method of an image forming apparatus according to any one of Claims 19 to 32, wherein the cap member is closed after an operation of forming an image on a recording sheet.

35. The control method of an image forming apparatus according to any one of Claims 19 to 32, wherein the cap member is closed unless an image forming operation is performed for a predetermined time interval after an operation of forming an image on a recording sheet.